

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY																																																												
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
OTHER : ☐																																																															

Work Order ID 145541

Friday, May 06, 2016 9:08:52 AM

145541

Page 2

Item ID: D3443-9

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Pin

Start Date: 5/3/2016 Start Qty: 16.00

16

Cust Item ID:

Required Date: 5/5/2016 Req'd Qty: 16.00

16

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>037</u>	0.00					0 6		
130							9-89		MAY 21 2016
Packaging	Memo	0.16							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	1.60							
Quality Control									

16/5/24 J

MAY 24 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
				OTHER : ☐					

Picklist Print

Friday, May 06, 2016 9:08:51 AM

Page 1

Work Order ID: 145541

145541

Parent Item: D3443-9

D3443-9

Parent Item Name: Pin

Start Date: 5/3/2016

Required Date: 5/5/2016

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP rev A 05.12.19 new issue ec

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MDEL RINR0.500		Purchased		No		110	f	82.1900	0.0875	1.473685	2.10		

MDFI RINR0 500

Delrin Round Bar .50" color: black

Location

Loc Qty

Loc Code

MAT039

82.19

m126369

82.19

1.65

DAS

49

9-89

16/05/19

DQA: _____ Date: _____



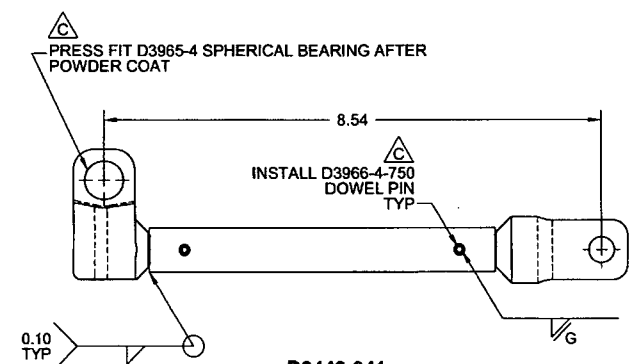
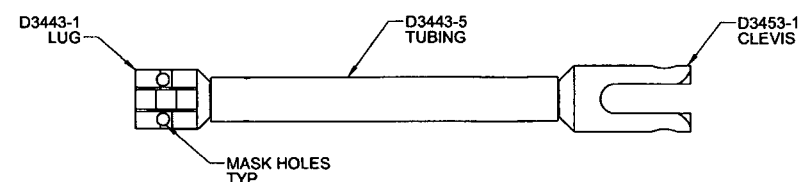
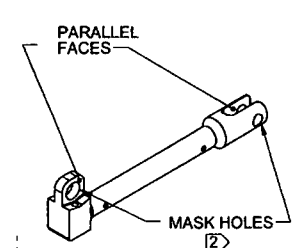
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

8 7 6 5 4 3 2 1



D3443-041

ITEM	QTY -041	P/N	DESCRIPTION
1	X	D3443-041	STRUT WELDMENT ASSEMBLY
2	1	D3443-1	LUG
3	1	D3443-5	TUBING
4	1	D3453-1	CLEVIS
5	1	D3965-4	BEARING, SPHERICAL
6	2	D3966-4-750	PIN, DOWEL

RELEASED
09/08/25 MP

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3 NO POWDER COAT IN HOLES
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER
 - 7) WEIGHT: 1.33 lbs
 - 8) WELD PER DART QSI 004

C	DRAWING UPDATED TO CURRENT STANDARDS. REVISED NOTE #2 (ZN A8-1, A8-2); 0.820 WAS 0.720 & 1.43 WAS 1.53 (ZN C2-3); 0.551 WAS 0.451 (ZN C1-3); R0.219 WAS R0.050 (ZN C4-3); D3965-4 WAS SPAENAUR P/N (ZN C6-1, B5-2); D3966-4-750 WAS McMASTER-CARR P/N (ZN B5-1); REF PAR 09-018	RF	09.06.25
B	ADDED -9 PIN; REMOVED BALL PLUNGER; REVISE TOLERANCE; & Ø0.125 WAS #30	RF	05.12.05
A	NEW ISSUE	RF	05.09.02
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.06.25		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

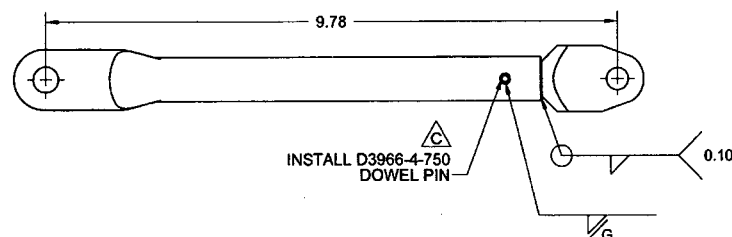
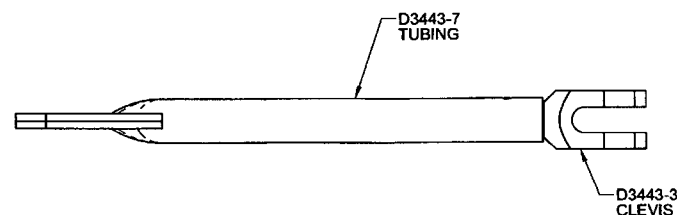
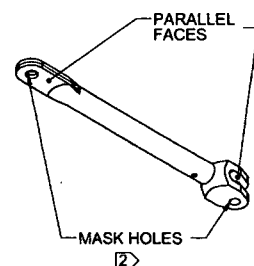
DRAWING NO. **D3443** REV. C
SHEET 1 OF 4

TITLE **STRUT WELDMENT ASSEMBLY** SCALE **NTS**

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w/o 145541 2m 16/05/09

ITEM	QTY -043	P/N	DESCRIPTION
1	X	D3443-043	STRUT WELDMENT ASSEMBLY
2	1	D3443-3	CLEVIS
3	1	D3443-7	TUBING
4	1	D3966-4-750	PIN



D3443-043

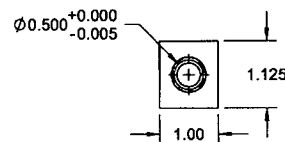
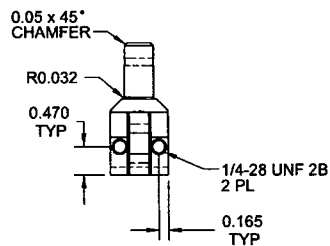
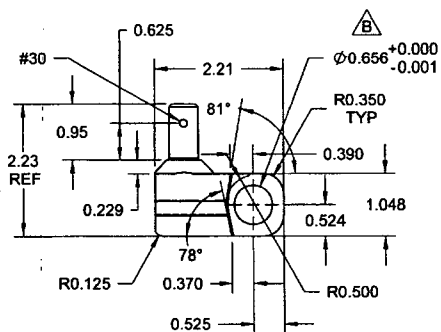
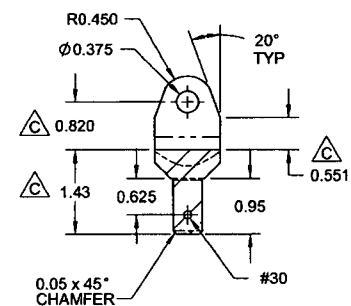
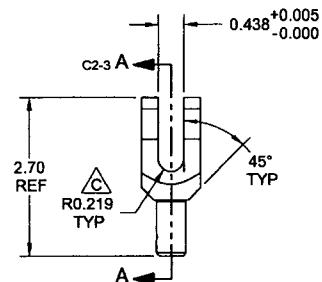
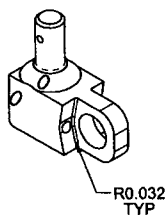
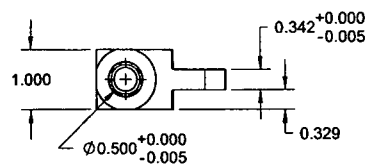
RELEASED
09/06/25/14

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
NO POWDER COAT IN HOLES
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.97 lbs
- 8) WELD PER DART QSI 004

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	UP	DRAWING NO.	REV. C
MFG. APPR.		D3443	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		STRUT WELDMENT ASSEMBLY NTS	
DATE	09.06.25	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1



D3443-1 LUG

D3443-3 CLEVIS

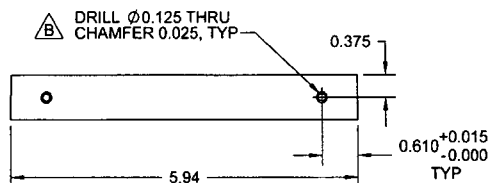
RELEASED
09/08/25/14

NOTES:

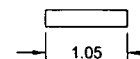
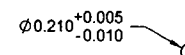
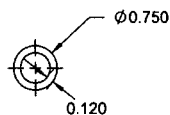
- 1) MATERIAL: D3443-1 = 17-4 SS PER AMS 5604/5643 (REF DART SPEC M17-4B)
D3443-3 = AISI 304 SS ROUND BAR (REF. DART SPEC M304R)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3443-1 = 0.50 lbs
D3443-3 = 0.35 lbs

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	GP	DRAWING NO.	REV. C
MFG. APPR.		D3443	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		STRUT WELDMENT ASSEMBLY NTS	
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8 7 6 5 4 3 2 1



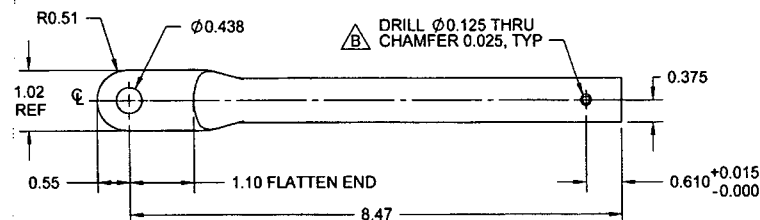
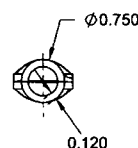
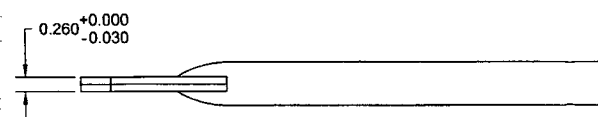
D3443-5 TUBING



D3443-9 PIN

D3443-9 NOTES:

- 1) MATERIAL: DELRIN II 150R OR ACETRON GP ACETAL (REF. DART SPEC M-DELRIN-R)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A



D3443-7 TUBING

D3443-5/-7 NOTES:

- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC M304TR0.750W.120)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.025 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3443-5 = 0.41 lbs
D3443-7 = 0.62 lbs

RELEASED
01/04/25

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. C
MFG. APPR.		D3443	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		STRUT WELDMENT ASSEMBLY	NTS
DATE	09.06.25	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. WHO IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	